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ABSTRACT

This study documents the development of 13 masters degree candidates as they progressed through a course in educational research methods. Eight were inservice teachers and five were preservice teachers who had completed student teaching. Part of an ongoing assessment effort at a small college instituting a new masters in education program, the study attempted to compare classroom teachers to candidates who were not yet in a teaching position. Using a qualitative design, the candidates wrote at weekly intervals about their views of themselves as researchers. Candidates were interviewed during their research methods course and at the end of the semester. Results indicate differences in the ability of experienced and novice teachers to understand and initiate research. A "magic window" of opportunity for teaching about and promoting action research is proposed. (Contains 32 references.) (Author/SLD)

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"I'm a Good Teacher, Therefore I'm a Good Researcher:" Changing Perceptions of Expert and Novice Teachers About Doing Research

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"I'm a Good Teacher, Therefore I'm a Good Researcher:"
Changing Perceptions of Expert and Novice Teachers About Doing Research

Abstract

This study documents the development of a group of masters degree candidates as they progress through a course in educational research methods. Part of an ongoing assessment effort at a small college instituting a new masters in education program, the study attempted to compare classroom teachers to candidates who were not yet in a teaching position. Using a qualitative design, the candidates wrote at weekly intervals about their view of themselves as researchers. Candidates were interviewed during their research methods course, and at the end of the semester. Results indicate differences in experienced and novice teachers' ability to understand and initiate research. A "magic window" of opportunity for teaching about and promoting action research is proposed.

"I'm a Good Teacher, Therefore I'm a Good Researcher:" Changing Perceptions of Expert and Novice Teachers About Doing Research

Research in teacher education has often focused on the role teacher preparation in forming novice teachers into effective educators, whether focusing on standards for professionalism, skills which beginning teachers should have, or attitudes which distinguish successful new teachers (Handbook, 1996; Smith, 1995). Studies have also defined teacher development throughout practitioners' professional lives (Edge & Richards, 1993; Handbook, 1996; Woolfolk,1989). Rich debate has recently focused on the role of teacher as researcher (cf. Wilson, 1995; Wong, 1995a&b). Such debate, growing out of a deep concern to improve the teacher's function in planning and implementing research (Cardelle-Elawar, 1993; Clift, Houston & Pugach, 1990),while giving credence to teachers' voice (Altenbaugh, 1992; Hargreaves, 1996), often has been inconclusive or misleading in terms of curriculum development and the place of teacher education programs in providing for instruction in research.

The definition, function, and purposes of educational research are difficult to articulate, and even more difficult to support with enthusiasm (Kaestle, 1993). While educational research has an inconsistent image (Gage, 1991), ways are emerging in which research can be operationalized to benefit the teacher (Dicker, 1990; Schubert & Ayers, 1992). Practical possibilities for developing new frameworks and paradigms for active research in the classroom are transforming the expectations of the teacher-researcher (Edge & Richards, 1993; Burnaford, Fischer & Hobson, 1996; Hollingsworth & Sockett, 1994). Further, the product of such new paradigms--especially information about student learning--is making events in the classroom clearer and more relevant (Leinhardt,1992).

Teachers' perceptions of the role of researcher may create either an integrated or bifurcated picture of the role of research in the classroom (Wilson, 1995; Wong, 1995a & b). Teachers carry on a complex set of behaviors necessary to teach well (Wittrock, Clark & Peterson 1990); should their endeavors be considered research? If we accept as teacher research those behaviors in which they are engaged constantly, such as reading student work,

analyzing writing, observing behaviors, and the like, how do we encourage another level of thinking about those behaviors? Is it necessary, as Gitlin (1992) infers about teacher voice, to think at a different level to do research? Such were the questions that confronted us in implementing a new graduate program.

As we considered the implementation of a masters degree in education at a small undergraduate institution in Central New York, we questioned the focus the programs should have, and the depth and breadth of our course in research methods. We were concerned with teachers' perceptions of themselves as researchers (cf. Altrichter, 1993; Kincheloe, 1991). Did they understand or accept the concept of teacher-researcher as change agent (Elliott,1991)? Would we be able to affect this perception by implementing one course in research methods, and requiring a research project? How could we most effectively teach and model action research in the context of a masters program? The study was designed to monitor and evaluate emerging evidence to address these questions.

The application and dissemination of action research assumes a level of sophistication on the part of the teacher in observing, analyzing and describing functions in the classroom (Altrichter, 1993; Maykut, 1994; Noffke & Stevenson, 1995). Research may be considered a foreign concept, something that is done to or for teachers to inform classroom practice, not by or with their participation (Anderson, 1989). We assumed that some unique interactions might happen when both novice and experienced teachers are enrolled in a program of graduate education in which both Masters of Education (MEd., experienced teachers) and Masters of Teaching (MST; novice teachers) complete coursework together. In addition, we were concerned that special needs might arise for one group or the other which might require adjustments in the program.

The objectives of this study were to monitor the change in teachers' self-perceived capabilities in educational research, and to explore the differences in application of action research by experienced and novice teachers who completed a newly implemented masters of education program. Additionally, we wanted to establish a basis for judging the effectiveness of a course in research methods and the viability of a research project requirement.

Method

This study was part of an ongoing assessment effort which collected data regarding the matriculation, progress, and productivity of masters candidates in a new masters of education program. Using a purposive sample and several different data collection techniques following the model of Ely (1991), the study monitored the development of thirteen teachers in masters degree coursework. The teachers represented the two different programs available; eight were inservice teachers (Masters of Education [MEd.] candidates), and five were preservice teachers who had completed student teaching (Masters of Science in Teaching [MST] candidates).

All the teachers were enrolled in an intensive five-week course in research methods. To explore the development of teacher perceptions of self-as-researcher, a reflective writing was assigned each week. Teachers were to write for at least one half-hour on the following question: "How do I see myself as a researcher?" I also wrote a reflective journal, summarizing the affect of the class, and my decision making about the process of teaching the course.

I conducted two semi-structured indepth interviews with each teacher, one during the second week, and one at the conclusion of the course. The interviews gave the teachers opportunities to explain their perceptions and reactions to participation in research, and gave me an opportunity to focus on specific qualities of the teacher-as-researcher as each candidate described them in their writings. All interviews were audiotaped and transcribed.

Analysis followed the procedures for interpretation of qualitative data (Bogdan & Biklen, 1982). Data were coded from each case and themes were generated; common themes emerged from the cases, and are reported in the results.

Results

Three categories of information became important as the results of the study were analyzed. First, that the chronology of the development of these candidates was important; how they changed in their attitudes and perceptions as their understanding emerged. Second, that certain themes were evident that were consistent across candidates' experiences, while other themes were discrete to either experienced or novice teachers. Third, my reactions as an instructor became critical at certain points in the conduct of the course, and in conveying

information about their perceptions. Each of these information categories is summarized below, with a chronological exposition, and selected reflections from my journal and concurrent writing or interview reactions of the students.

Themes:

DEFINING THE RESEARCHER. Findings from the reflective writings and interviews reveal certain trends. All teachers reported levels of anxiety about doing research, and what that might contribute to their teaching. Some who described themselves as researchers at the beginning of the course ("I'm a teacher, I analyze and do research all day long."), by the midpoint of the course were no longer confident that what they did was research. All teachers were, at some point, unsure about their ability to initiate meaningful research on their own, and doubted that their research could be significant.

Instructor's Notes, Observer Comments:

Day 1: I am excited about the prospect of teaching a class at this level. I need to emphasize APA writing style and publication concepts, as well as conceptualizing the "why" of research. My job is mostly getting students relaxed and happy about doing their MED. project. The word from colleagues and contact with students is that students are anxious--this is a new program and there are no models.

After the first class question and answer session and lecture, I see students are highly motivated, attentive, bright, and <u>extremely</u> anxious.

Day 2: The class was lively, prepared, and most seemed ready to jump into formulating research questions. I gave them the first reflective writing in class. I think I'm as nervous as they are...I want this to be a good experience, but I know they are highly anxious and really know little of the function of research. We share no common language, no common purpose, so is it possible to achieve this goal of action research? Their goal is to do this class well. I know they want that, so I've got to help them see they can.

<u>REFLECTIVE WRITING #1:</u> How do you see yourself as a researcher?"

Representative responses of experienced teachers:

> I would have said I don't see myself as a researcher at all. After sitting through class, I see it as a possibility...I think teachers are researchers. I think many teachers are looking for answers to many questions surrounding education...I am interested in the different types of research and am anxious to start trying this process on an interesting topic and hope it will help me.

>I see myself as a researcher in the classroom as I am always trying to find better ways

to accomplish my objectives. What I find even more interesting is how differently all students look at the same piece of information. Research to me, is finding a way to reach the students that helps them make sense of learning.

Responses of novice teachers reflected less confidence:

>I'm organized, objective and intuitive, accurate. My experience has taught me how to get information which is important as a consumer.

>I am a researcher in everyday life.

>Research is still an "out there" concept in my head. I've never considered myself a researcher...I wish I could think about this more...

>The research I have previously completed has always been very structured or guided. I am apprehensive about embarking on a research journey of my own. I do not feel that I am qualified to doubt or question ideas and information that I came across. I find it difficult to incorporate opposing viewpoints into my work because of my inability to question the strength of an argument.

FEAR. One of the themes to emerge strongly in the candidates' writings was fear and lack of confidence. Ten of the thirteen candidates mentioned some form of fear about the course or process of research, most reflected a perceived inadequacy in writing skills.

>I'm interested in resources and researching, but not confident about how to find the process. I really fear having my writing read...My palms begin to sweat just thinking about it.

> My fear is that there are too many subjects...I'll not be able to choose in time to finish.

>The doing is fun, but putting it together to make sense is something I'm less confident of Doing it with someone, not alone, might make me feel better.

MOTIVES. Defining the motive for doing research was an interesting theme.

>Why do research, if, as you say, there's no true answer, that knowledge is changing all the time? I need to have a concrete reason . There's no prejudgment of right and wrong? You're kidding.

I need my research to be an eye-opener, or I won't feel like it's worth it.

I hate to put something down on paper, because someone else will be seeing my thoughts at this moment in time. And tomorrow they might have grown and changed. But on paper they still remain the same. Stagnant.

Although two teachers reported that what they do all day qualifies as research, most teachers were unable to see how research contributes to what they do on a daily basis. The most

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experienced teacher (over 20 years experience) was highly anxious and challenged by the concept of research. Those teachers with five to eight years experience reported most confidence, and were able to see possibilities and connections between research intents and classroom applications. Novice teachers found it most difficult to generate what they found to be a meaningful research question.

Instructor's Notes, Observer Comments:

Days 3 & 4. Today was a statistical lesson on variables, hypotheses, sampling, instrumentation, etc. Anxiety has increased sharply; students reported not eating, and the fear of not completing. I began individual meetings regarding research questions and defining a masters project. I assured students that it was not necessary to define their final project topic. I also realized students were incredibly good at internalizing the terms and concepts of what they were learning. Their interest is in doing something meaningful, not an artificial task.

WRITING #2 and Interview #1: How do you see yourself as a researcher?"

DESPAIR. The second week of the course produced a definite decline student confidence. Those who began with some sense of confidence were reduced to feelings of helplessness and insecurity when facing the quantitative side of research statistics.

Experienced teachers' responses:

>After reading the first 8 chapters and attending 3 classes, I see myself as less of a researcher this week than last week. If this decline continues, I should feel like "chopped liver" by the last class. Yikes.

> Examining my original definition of myself as a researcher, I've changed my mind; I'm not confident...I was foolhardy to say I could do this.

>I'm more confused, but I'm an educator and I do research on a daily basis. I just see that I've probably been thinking superficially.

Novice Teachers' responses:

>It might be possible for all of this to make sense someday...I'm trying to remain patient, but I'll be crushed if I do all sorts of work and my evidence doesn't match my hypothesis.

>I don't see self as a researcher because I can't even come up with a question.

FEAR. The theme of fear reemerged. This time, it was more specific to conducting research. Students worried about both process and the "need to find what I suspect or else it

will be a waste of time." Some described the language of research as foreign and intimidating. They even began mocking their own fear, saying they were "whining all the time."

>I keep coming up with more questions every chapter I read; can this be healthy?

>Knowing I will not be able to find a definite answer, only more questions, seems overwhelming. Then, why do this?

PROFESSIONALISM--DEFINING THE RESEARCHER. During the second week of instruction, a sense of the nature of the researcher began to emerge. Students seemed to become more comfortable with the definition of research and their role in doing it, both in the abstract, and how it might be applied in the classroom.

Experienced teachers' responses:

>I can't let go of the fact that in some small way as a teacher I will always be a researcher. For what is a researcher other than someone who is looking for answers to a myriad of questions? As teachers, we do that every day. Is there a better way to teach reading? Why is little Johnny so angry? We observe and draw conclusions based on our own experiences and knowledge. I cannot and will not give up on the fact that by nature I am a researcher.

> Things are becoming a little more clear to me as I march through the text and talk about it in our class. What is happening at this point is that I am becoming more comfortable with the way my research is evolving. By seeing that quantitative and qualitative research can become seamless is an eye opener to me. I was thinking in black-and-white. I never really contemplated whether something in the middle can occur. This gray area is what I am wrestling with, but I am happy about the direction my study is taking me.

Novice teachers' responses:

> A drawback I see is not having taught yet. I am trying to think about being a researcher in education before I've even been a teacher. This might say something about when this course should be taken during the masters program--MST's are a lot different. Hey, someone should design a research project on that!

>I see myself as an indecisive researcher. As I sort through the vast information available, I keep encountering new ideas that I had not previously considered. I am not making good decisions about what information is pertinent for fear of discarding something that may have the potential to be useful.

>At this point in my research career, I am overwhelmed with information and ideas. I am slowly processing all of the aspects of what research contains.

Teachers reported that the organization and implementation of the research methods class kept them hopeful, because it was low-key, individualized, and emphasized the conceptual,

rather than the statistical interests of research. The instructors' description of the process reflects consistent attention to action research and an attempt to balance statistical and methodological information with personalized application experiences. Each student designed their own study throughout the course and present a completed proposal as a course requirement.

Instructor's Notes, Observer Comments:

Day 6. Should I continue with each week of reflective writing? They're so tired and anxious. I've interviewed each of the students at least a half hour in the past week about the course, their study, and their feelings of inadequacy. Most who are teaching are doing OK. Those who were not in the classroom are struggling. This seems to be emerging as the <u>essence</u> of this.

I've decided to have students write during class again, simply to get them to focus more and be less anxious out of class. It occurs to me that no one has asked me what I've done with the writings or whether I've read them at all. This is a curious lack of interest for this hyper-focused group. One who realized I hadn't given them the blue books (for writing) that I had before, said "What's our topic...the same question?" How soon they learn. Now, will they be able to see what I'm after? Will they be able to identify it as qualitative research?
[NOTE: When I asked this at the end of the course, one said..."I really didn't want to know what you were doing, I was so overwhelmed."]

Day 7. The class had a great discussion of the reason for doing research and how it happens in the classroom. Student asked about the function of administrators (in curriculum and development). Why weren't they doing research about how things should be done to get better in the classroom? After some kvetching and moaning about administrative ineffectiveness, another student said it wasn't that they were going to change into good (change agents) because they were "promoted" out of the classroom. The general perception was that ineffective teachers become administrators. They concluded that by becoming better informed, and being better researchers, <u>teachers</u> would be the ones to influence policy, to discover ways to make the classroom better, and the way to improve teaching. Students also arrived at the conclusion that, as frustrating as research was, it should be <u>empowering</u> (to have information is powerful). The most experienced teacher added a nagging voice "But what if you get this information and no one let's you use it?" Another student answered that the other reason we're studying is to be better administrators, to take the proactive role.

When I gave them the topic again for writing, the students guessed what it would be..."It's going to be the same"...moans and groans. "But I'm just repeating myself. I'm not saying anything new"..."You're doing a study on stress, aren't you?"

I've realized I need to be recording more of what I'm thinking and feeling about this process--preparing three chapters for each class, involving such density of material is daunting. I don't want to just repeat concepts, go over

discussion questions in the book. I need to get students to internalize and accept this. As we got through four tough chapters on stats and into research design (experimental), it was obvious students' anxiety levels weren't diminishing. (Nor is mine).

I have also had to clarify policy, outline the proposal format in detail (which is to be the product of this course), while trying to constantly emphasize the importance of the big picture. Finding out rather than being right... that we're never finished..we're adding to... That is what they're anxious about--they want to reach closure in the traditional way (paper, grade, be done), not have a sense of open-endedness of research and knowledge.

WRITING #3: How do you see yourself as a researcher?"

SEEING THE POSSIBILITIES--EVOLUTION. Five of the teachers (four experienced, one novice) emphasized at this point their excitement about doing their own research. They began to be motivated to find answers to questions they had begun to develop. They all seemed to be beginning to see the potential of research for them personally. Yet especially for the novices, there was still a sense of an overwhelming load of information.

Experienced teachers' responses:

>I am beginning to evolve! The light bulbs are actually starting to go on and I am seeing more clearly the direction I am headed in as a researcher.

> I know that I have a passion for mathematics and the numbers and theorems that comprise this discipline. It would seem natural to do a quantitative study. On the other hand, I am a real people person; I love hearing teachers talk about their philosophies and stories of their classrooms. I feel the urge to tuck away my quantitative nature into some far away corner and let my qualitative side reign.

> I am actually beginning to get excited about my study because of the interactions I'll be having with a variety of people. I am anxious to get answers to some of my questions. I am more connected now that I can see how to do qualitative research.

Novice teachers' responses:

> At this point, I would feel competent enough to come up with a question to examine, but fell very inadequate in determining design or analysis of any data collected. I read these chapters with great difficulty as I have nothing to compare these concepts with (schema)! I think part of the problem is I'm not a teacher yet, so I have little information on which to base my ideas. I don't see myself as a researcher because I'm having so much trouble coming up with a question (and I thought I could)!

> I'll always be a researcher. By nature I'm looking for answers. But am I adequate? The more I learn, the less I seem to know.

Instructor's Notes, Observer Comments:

Day 8. Yesterday I wrote a proposal for AERA on research process applied to this course. I debated back and forth whether to give the reflective writing for today. The topic was (finally) qualitative research, and I introduced this study as an example. I was exhilarated to show them how I would turn this information into a study (publication, we hope). My worry wart (20 year. teacher), sort of went off on the ethics of studying them. I showed her so far, it was a class, so therefore she could choose not to do further part of study. I had a waiver for them to sign, which made it all neatly legal for her. We discussed all aspects of the project; students focused mostly on issues that they found personally critical (What if we don't get a job?).

Students laughed when I gave them blue books (writing) at the end. They made reference to when we started and how they thought something was being monitored, but didn't realize it could be made into "real research." They could see how each part of data collection became meaningful and how it related to design.

Several mentioned anxiety again--for several, the course seemed over--they were ready to shut down. Much of the discussion centered on whether they would do research once in the classroom--we read Mary Dicker's article on teaching/action research and I gave it a hard sell; the time constraints, need to be reflective, empowered, advocate for self.

Students spent more time writing and were focused much more than previously. "So now we know what you want us to write...won't this skew the results? " I replied: "Now I can be very overt about what I'm asking..."

One student said "Now you have your study done, that's your product." I reminded her that <u>they</u> were my product..

Day 9 & 10 The final days of class were devoted to promoting qualitative/ action research. I invited my colleague who does qualitative research. She told the story of her proposal, which I had copied for class, of a state-funded school based inquiry study. It was real and enjoyable, students later remarked about the way we obviously enjoyed each other and the topic. Another level of teaching/learning--modeling the collaborative/cooperative nature of research. They need to see people rooting for others to do well, supporting each other.

<u>WRITING #4 and INTERVIEW #2:</u> How do you see yourself as a researcher?"

<u>RELIEF-COMING FULL CIRCLE.</u> The responses in students' final writings and during the exit interview reflect a sense of closure that I didn't anticipate. They seem to believe very much in their ability to do something meaningful in the classroom with the new tools they've learned. They also expressed a sense of assurance about their teaching being better for this experience.

Experienced teachers' responses:

> As this course winds ("whines"?!)to a close, I have seen myself come full circle. In the beginning I viewed myself as a researcher by virtue of the fact that I am a teacher. As the

course progressed, that view was questioned, seriously at times due to the amount of new information we were digesting. Because the information was so technical at times, I felt that I couldn't call myself a researcher, nor did I want to be. At some point, that began to change. I began to see research in a more practical mode. The thought of research became a "do-able" thing. The mystery was removed. I began to see how it is necessary for any teacher to become a researcher.

Novice teachers' responses:

>I'm almost looking forward to this; if I can get time, I think I'll enjoy research in the classroom.

> Now I can think of all kinds of topics interesting for research. I was off to a slow start because of my doubts, but I see it was about design and technical stuff, rather than the ideas of research. Research can be a natural part of being a teacher in a classroom; it makes you a better teacher through self-reflection.

VOICE. As I analyzed teachers' final responses from the interviews, I realized that what I was hearing was a new expression of voice, of teachers' investment of themselves in this process of understanding research, such as that described by Hargreaves (1996). Their concerns became connected with who would read their research, what they had to say, how it would fit in with knowledge, and who would "own" that knowledge.

Experienced teachers' responses:

> I remember one line from our readings: "The act of teaching can become a daily search for the child's point of view." If that is true, how can a teacher not be a researcher?

> I realize (just lately) that research can be a natural part of being a teacher in a classroom. It is not so lofty and out there that it can't be a part of the environment that I feel is "significant." I also see being a researcher as a way of becoming a better teacher, by being able to self-reflect on what I'm doing and how I'm doing it.

> I no longer feel like chopped liver, I see myself as a 3-way light bulb, switched on to the second level of light, with someone reaching to turn me on to the brightest light. It's finally coming together. I find myself thinking about lots of other things, related to school and saying, "Gee, I could (have) research(ed) that."

> Being a teacher-researcher has the potential to give teaching freshness--newness.

> One of the turning points in my attitude change about seeing myself as a researcher was the articles we read [Cardelle-Elewar, 1993; Dicker, 1990]. It is encouraging to see studies being done that have "I's" in them. That's just my style. I think having the teacher and students involved in the research is very powerful. I now realize the importance of being both a researcher and a teacher.

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>Now I'm questioning Wong's [1995a & b] article even more as to the separation he makes between researcher and teacher. Those who don't actively research what is going on in their classroom may be doomed to the rut so many teachers find themselves in. I also feel that for some people, asking to reflect or look at their classroom in a critical way is in essence asking them to look at themselves, and many people are just unable to do this for fear of what they may find. These are the ones with the closed doors, no push-ins allowed, and panic attacks when the principal wants to observe their classroom. I need to be a teacher-researcher to get the ultimate for myself, but more importantly for the students I work with daily.

Novice teachers' responses:

> I am willing to continue to do research, but I am wondering where it all fits in with the big picture. Do classroom researchers eventually become curriculum coordinators? It seems that is the formalized step to research. I know that to improve my teaching skills I will always informally research, gather data, observe, and reflect.

>After discussing qualitative research, I think this is the way I look at things. Being reflective in nature, this type of research is something I foresee in my future. In the classroom, I always wonder, "why is that?" or "what would happen if..."

> I find a question in my mind--how will I look back on this course once I am teaching? It has already changed who I will be as a teacher. It relates to the research I am thinking about doing--how can we change teachers to prepare them to teach art in different ways? I think my primary focus at this point is being a teacher first.

On the last day of class, the class generated topics to address the question: What are the topics you've had to abandon or that you can't investigate right now that you'd like to investigate some day? There was a rich response and excitement, mixed with a realistic rue, that not everything you think of can be followed through.

While the change in attitudes about research are moderately evident in the reflective writings, the final analysis (September, 1997) of longer term intents and application of research interests will provide greater meaning to this study.

Implications

The results of this study indicate that there are noticeable differences between the two types of candidates in our program. Candidates' different perceptions of the classroom, based on experience, produce different types of research understanding and different attitudes about the research process. The questions they asked and problems they had to solve in the process of discovering research and knowledge are quite different. For the novice teaching candidate, a

somewhat sterile book-oriented perspective seemed to be indicated. For active teachers research was a process of sorting the questions with which they are currently grappling. Research for experienced teachers has immediacy and urgency for a solution.

While candidates seemed to differ in their perceptions of research purposes, their attitudes and understanding of the intricacies of research methods and process were similar. That teachers are more likely to conceptualize meaningful and feasible studies if they are actively engaged in a classroom of their own is no surprise. Yet, when a research methods class emphasizes the personal conceptual task of research, rather than the statistical or methodological one, it can be relevant for teachers at any level of experience. The implications of these teachers' perceptions is that research methods needs to be removed from its typical statistical emphasis and instead promote thinking, problem-solving, and conceptualizing of alternatives as meaningful to teachers. It is critical to emphasize the use and application of research methods to classroom observation, and to curriculum development in teacher education programs.

Another finding that requires further investigation is the contrast between teachers with long term experience in the classroom, and those who have some experience, but who may not be as established in their methods in the classroom. Moderately experienced teachers, as opposed to longer-term teachers, seemed ready and willing to do research projects. Perhaps there is a "magic window" for teaching research techniques to inservice teachers. Moderate experience may create a number of questions which teachers are in the process of solving; many years of experience may create a facility with teaching that precludes questioning practices. Good techniques and outcomes may seem like a given, and therefore not worthy of study.

Experienced teachers generated more feasible ideas and recognized the limitations of research designs for the classroom; novice teachers were unsure whether their ideas were significant. Such a phenomenon requires more observation to monitor development over the course of several years of teaching. Do teachers trained in research methods have a change in attitude after a period of time in the classroom? Do experienced teachers create richer studies, or is the critical attribute the level of training a candidate receives?

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One of the goals of action research is the integration of research in the everyday functioning of school. The only way to do this is to have teachers who are thoroughly invested in applying research to their teaching, who are so convinced of the critical nature of research to advising their own activities that research is a reflective and reflexive activity. An emphasis on action research and personal application for the masters project seems to further empower teachers who are both ready and willing to create research scenarios in their own classes. Long term observations and reflection by these teachers should provide further information on the effects of research methods in promoting teachers' action research in the classroom.

Afterward/Forward

One student in this study described her relation to research as "I'll probably like research; I like a good murder mystery." What I want to preserve in teaching the process of research is the awe of finding out. Like Piaget, we must assume and honor the curiosity that drives the processes necessary to understanding. Rather than emphasize the methods of quantifying and categorizing we need to accentuate the methods of exploring and explaining. We need to rediscover the childlike simplicity of asking a question and attacking a task. If we want to have teachers who are good researchers we need to recognize their need to apply and connect the questions they ask each day in their classrooms.

As I was completing preparations for this conference, I received the following in my mailbox:

> *Dear Dr. DeCorse,*
> *I just wanted you to know that a funny thing happened to me as I was working on my Master's project. I sort of got addicted to researching. I spent hours looking through journals, books and surfing the Net...always looking for THE PERFECT ARTICLE. I found a lot of good ones, I'm not sure that I ever truly found the perfect one. I finally had to go cold turkey on the researching as I would never have gotten to the paper. I've even been researching things not dealing with my topic.*
> *I no longer feel like "chopped liver" as a researcher. I think I've moved up to "prime rib." I hope this doesn't wreck your article. If it does, this letter will self destruct. I'll see you at graduation (God willing), if not before.*
> *Sincerely, G.*

Such timely footnotes are rare and beautiful. It will certainly motivate my further investigation of the issue of teaching research.

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